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① INSTRUCTION RELATIVE TO THE USE OF
THE INTERVENTION ARTILLERY IN INDO-CHINA

by

Commander-in-Chief, Indo-China

① 31 January 31, 1953

② 46 p.

③ SD-171, ARPA Order-936

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Item 9. Instruction Relative to the Use of the Intervention Artillery
in Indo-China, January 31, 1953, Commander-in-Chief,
Indo-China.

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Command in Chief in Indochina

Ground Forces

Artillery Inspection

No. 37/ AC/3/S.C

INSTRUCTION RELATIVE TO THE USE OF THE INTERVENTION ARTILLERY IN INDOCHINA

Approved January 31, 1953

Army Corps General SALAN
Temporary Commander in Chief in Indochina

Classification changed to SECRET
by authority of 1st Lt. J. H. ...
1st Lt. J. H. ...
by 1st Lt. J. H. ... (name) 1st Lt. J. H. ... (date)

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INTRODUCTION

I. The present instruction, relative to the use of the intervention Artillery in Indochina, comprises:

- a reminder of the notions and definitions according to regulations and of a general scope,
- instructions particular in the case of Indochina taking into account the conditions of use of the Artillery on this theatre of operations
 - (- constitution and equipment of the units
 - (- ground
 - (- form of combat

II. This document does not constitute a complete technical instruction concerning the use of an Artillery, and still less, a regulation. It has been drafted by Officers who started more than two years ago in Indochina and who have taken part in many operations in each of the Territories, and it is addressed more specially to the Chiefs of any Arms who might have Artillery Units, or to work in connection with these units. Hence the chapters relative to the interarmy maneuver are especially developed; because the efficiency of this maneuver rests essentially on the knowledge that the interarms chief possesses the conditions attaching to each arm.

FIRST SECTION

GENERAL ORGANIZATION OF THE ARTILLERY IN OPERATIONS

CHAPTER I - GENERAL INFORMATION

- I. The Artillery used in an operation comprises:
- an Artillery Major and his staff

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- a certain number of Howitzer groups or of gun groups.

The Staff of the Artillery Major can be:

- either provided by the Commander Battery and the Service of the group,
- or constituted by an operational staff, of variable importance, drawn from the Division Artillery Staffs or from the Territory Artillery Commands.

II. The materials in service in the Indochina groups, at the present time, are:

- average range materials: 105 HM2 and 25 pounders
- wide range materials: 105 long 26, 155 HM1, 155 Gun M1.

III. In the case where the amount of wide range artillery, available for an operation, is insufficient, this artillery may be constituted by isolated Batteries and not by groups.

CHAPTER II - ORGANIZATION OF GROUP

I. Administrative autonomous, this Group is commanded, in principle, by a Lieutenant Colonel or Squadron Chief aided by a Squadron Chief or an Assistant Captain. The group consists of:

- 1 Command Battery and Services
- 3 Batteries with four or six pieces.

II. The Command Battery and the Services consist of:

- the Command Post and the central firing post
- the advanced reconnaissance detachment
- the liaison detachment
- the observation detachment
- the transmission detachment
- the Group Services and the Unit Services.

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III. The Firing Battery consists of:

A. A Command Section with:

- a liaison and observation detachment
- a Transmission Team
- a reduced Security Team

B. The firing Battery with a reduced combat echelon.

C. The General Services (food supply, account service, auto repair).

CHAPTER III - COMBAT DEVELOPMENT

The Artillery in operations is developed according to the general scheme given below:

1. liaison and observation elements
2. reconnaissance elements
3. firing elements
4. General Service element.

SECOND SECTION

PRINCIPLES UNDERLYING THE USE AND OPERATION OF ARTILLERY¹

CHAPTER I - GENERAL INFORMATION

"The Group is the tactical unit used. It can be dissociated only exceptionally.

-
1. The principles which are about to be developed apply to the Artillery used in active operation. In Annex IV to the present instruction, we shall study the special case of an intervention artillery used for certain static missions.

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It is the smallest artillery unit:

- which possesses the means necessary to insure continuous firing during an action requiring the displacement of materials.
- which is capable to release, within the required delays, the number of projectiles necessary to, and in order to obtain an effect of neutralization on a current object of the battle field.
- which possesses its own means of transport so that it can supply the unit.
- which is provided with transmission means sufficient to obtain the maximum efficiency of its guns."

The necessity of the mass action has been neglected during an entire period when the artillery was unable to play its traditional part, in a form of war which resembled the guerrilla more than the pitched battle.

The evolution of the combat form, especially during 1951, made it necessary to come back to the normal and technical use of a force instrument which can be fully efficient only when the efforts are concentrated on a limited point of application.

From this point of view, it is useful to underscore the fact that the period of the isolated section has alleviated a long time action, that the use of isolated battery can be but an exceptional case, and that the group must be given its role of a tactical unit and of a firing unit again.

CHAPTER II - MISSION, ARTICULATION, ZONE OF ACTION

I. MISSION

The mission, from the point of view of the precise part that the artillery must play in an operation, is defined by:

- troop support
- indirect actions.

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II. ARTICULATION

The Artillery, as a function of the idea of maneuver and of the mission ascribed to it, is articulated in:

- direct support units
- total action units.

If a mobile group is organically provided with an artillery group, the latter is the normal direct support group of the former.

III. ZONES OF ACTION

The mission of an artillery unit is completed by the indication of an action zone, that is to say, of the region where the mission must be fulfilled within the shortest delay: it is the normal zone of action.

The Artillery shall select its Battery positions in function of the zone defined by its lateral, short, and long limits.

From these positions thus selected, the artillery, furthermore, is capable of intervening within a certain delay in an eventual zone of action which is limited only by the possibility of the material (in Indochina, the Artillery, as a rule, is brought to fire of azimuths).

CHAPTER III - RESPECTIVE ATTRIBUTIONS OF THE OPERATION COMMANDER AND OF THE COMMANDER OF THE OPERATION ARTILLERY

I. The Commander of the operation:

- defines the mission of the Artillery
- assigns the general distribution of the means by the direct support and total action

II. The Artillery Commander:

- inform the Commander of the operation about the possibilities of the Artillery
- defines the distribution of the means

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- organize the Command and the liaisons
- supervise the maneuver of material and fire.

III. The decisions of the Operation Commander relative to the Artillery are dispatched in the form of orders.

These are "Artillery orders" which constitute a paragraph of the initial order of operations and which, consequently, can be dispatched in the form of successive particular orders.

These orders must be drafted and diffused only after a work in common of the Operation Commander (and of his staff) and of the Artillery Commander.

The juxtaposition of the C.P. facilitates this work in common.

CHAPTER IV - LIAISON, OBSERVATION, INFORMATION, TRANSMISSIONS

The Artillery is fully efficient only if it can suitably apply its fires to precise objectives.

This requires:

- an issue liaison with the organs for which the Artillery will act
- a system of observation without any gaps
- the search for information
- a network of transmissions adapted to the situation.

I. LIAISON

A. Interarmy Liaisons

1. At the operation Commander echelon, the liaison is insured by the juxtaposition of the C.P. of the Artillery Commander and of the operation Commander. These two Chiefs remain one near the other as often as possible.

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If the Artillery Commander has to perform some displacement, he lives with the operation Commander in the Artillery liaison detachment.

2. The subordinated echelon (as a rule a sub-group) the direct support Artillery places a liaison detachment commanded by a qualified Officer, provided with radio means.

3. At the echelon of the Battalion or of a similar unit, liaison is insured by a Liaison Observation Detachment, as a rule provided by a direct support battery.

Annex I treats with the composition of the use of the liaison and observation detachment in Indochina.

B. Internal Artillery Liaison

1. At the echelon of the Artillery of the operation Artillery Commander:

- each time, when it is possible, the direct support groups detach, to the C.P. of the Operation Artillery Commander, a liaison Officer provided with transmission means,
- the total action group detached obligatorily an liaison Officer with transmission means.

2. At the direct support group echelon, the unit called in support, detached, obligatorily, to the direct support groups which they support, a liaison Officer with transmission means.

II. OBSERVATION

Observation is intended:

- to inform about the development of the combat
- to put the fires in their proper place.

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Continuous observation, in time and space, is an essential condition of Artillery efficiency.

It is secured by Ground and Air organs.

A. Ground Observation is Obtained

1. By the observation elements of the D.L.O. occupy observation post according to circumstances having, as a rule, fragmentary views.
2. Eventually by fixed, total observation posts, giving extended views on the combat zone.

B. The air observation is actually secured by "Moranes."

Air observation completes and prolongs the ground observation; in Indochina, it is obtained as the sole means of observation possible.

In the present organization, the "moranes" is at the same time a Command agency, where observation frequently constitutes the relative total observation post, although its action be discontinuous in time.

Annex II treats the use of the "Morane."

III. INFORMATION

Sole continuous search for information makes it possible for the Artillery to act opportunely for the benefit of the combat. The constant aim of information is to discover advanced objectives and to define them exactly.

Furthermore, it contributes to the general information of the Command.

The research agencies are:

- the total ground observation posts
- the "morane:
- the D.L. and the D.L.O.
- all the Artillery units

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IV. TRANSMISSIONS

A. At all the Artillery echelons, the purpose of the transmissions is to insure the relations:

- internal to the unit
- with the supported troops
- with the upper Artillery elements and the neighboring units
- with the air observation agencies

B. The Transmissions rest, to a large extent, on the use of radio which permit safe and instantaneous connections, especially during movement.

C. The telephone remains particularly important.

It makes it possible:

- to alleviate the use of radio networks
- to improve the security of the transmissions
- to correct any possible radio shortcomings.

Annex III treats the use of the radio networks.

CHAPTER V - THE MANEUVER OF THE MATERIALS

I. THE DEPLOYMENT

The zone of deployment of the Artillery must, first of all and without restriction, permit the execution of its mission.

The Artillery Commander selects this zone of deployment and distributes it among the different units.

He is guided in his selection not only by the access and firing possibilities, but by a factor important in Indochina: the security factor.

A. Access and possibilities of deployment

In Indochina, the zone of deployment is rare and the search for positions permitting the fulfillment of the mission is often a delicate matter.

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Some are sufficient for one Battery but not for several; others, where access and occupation is possible during the dry season are not so during the rainy season, etc....

B. Security

The Artillery, in position, is not able to insure, by its own means, its security against ground attacks, because it only has a few automatic arms, and if it uses them, it is detriment to its principal mission. It can also perform close firings involving a direct view; but, in this case, the conditions of its deployment limit its efficiency sometimes.

Now, in the present forms of combat, where the enemy uses important units, the action of the Artillery, is each day, felt more acutely: thus the enemy is brought more and more to try commando actions against insufficiently protected Artillery elements, especially against the liaison and observation detachments, the radio post and even the firing batteries.

The importance of the actions, which the enemy does not hesitate to start against the Artillery, may be an indirect action of the efficiency of this arm; it obligates, especially, the Command to take the strict measure in order to protect the Artillery.

These safety measures must be looked for by the artillerist himself, in the selection of his positions, and by the operation commander in the infantry protection which he will assign to each Artillery unit.

1. The artillerist must endeavor to find battery positions as close as possible to the solid post, especially when the infantry elements, which might be available to him for his safety, are insufficient.

The battery positions organized in close support points, must be protected by the automatic arms of the unit, by the barbed wire entanglements, (RIBARD) and by mines. The individual holes will be dug and the splinter-proof shields will be placed as soon as the positions are occupied. The sentries

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will be placed, and by frequent alert exercises at day and at night, one shall make sure that each man in the unit knows his place and his instructions in case of an attack from the enemy.

The C.P. of the group is, of course, in the region of its batteries (telephone connections) and must, on the other hand, be placed side by side as much as possible with the C.P. of the supported groups (work, reciprocal information). This juxtaposition of the batteries of the C.P. of the group and of the C.P. of the supported group results in a more economical common defense.

However, there can be important draw backs in the accumulation of radio means for the operation of the networks, and the juxtaposition of the C.P. must be determined by the circumstances.

2. The operation Commander must determine the means which have suitable attributes to the protection of the Artillery. It is a Commander action, essentially.

These means of protection to be granted to the Artillery function are:

- of the more or less great insecurity of the deployment zones
- of the extent and division of these zones
- of the more or less solid and continuous total arrangement of the Artillery (units on ground or post).

C. Adaptation of the maneuver to the deployment possibilities.

On the bases so defined, it may be found that it is impossible to find positions permitting a complete fulfillment of the mission. In such a case, the Command may be induced to modify the maneuver in order to adapt it to the possibilities of the Artillery.

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II. RECONNAISSANCE OPERATIONS

The purpose of these operations are to prepare deployment and displacement of the group without loss of time or false maneuver.

Taking into account the rare zone of deployment, it is important for each territory to keep a list of possible positions, to date, (dry season and rainy season) and to systematically keep it, even outside the operation periods, by using reconnaissance means of all Arms, Morane inclusively, which can perform this work.

On this condition, the reconnaissance of the deployment zones, for a determined operation, can be reduced to a detail reconnaissance operation, performed immediately before deployment. The Artillery Commander, of course, must be informed of its mission at the right time.

Such a solution is more frequently rendered necessary because it is only exceptionally possible for the artillerist, for safety reasons, (escorts, route opening, keeping of secret) to perform a preliminary reconnaissance operation.

III. DISPLACEMENTS

In the majority of cases, the Artillery does not move alone. It is divided in elements comprising the convoys (ground or river convoys) of the Arms. Hence it is important for the convoy Commanders to be informed of the conditions attached to the Artillery.

If it is a displacement on the ground, the speed of the convoy must be that of the slowest element which, as a rule, is the Artillery column (20 MPH for the 105 HM2 on very good roads, 10 MPH on poor roads).

If it is a displacement on the river, one must foresee transportation means not only for the guns but for the equipment necessary to the Command,

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to the operation, and life of the Artillery unit transported.

B. Routes

1. Ground Routes

Certain routes can be considered as practical at all times, except during floods and interruptions.

Others, as a rule, secondary and non permanent, are poorly passable and may require repair before being used by the columns.

Furthermore, one must take into account the theoretical surface forces and of the present state of the structures existing on the roads. This information must be recorded on roads designated, kept up to date as precisely as possible.

The operations concerning the repair of the roads, (the placing of corresponding means, the fitting up of interruptions) and the unfastening of teams sometimes necessary in order to correct insufficiently solid bridges, may result in considerable increase in the delay of progress on such routes.

2. River Routes

According to the season and according to the tide, certain river ways are not passable. As a rule, this has an effect on the possibility to perform such and such operation at a determined time or date.

C. Placing in position

The mission assigns the hour of fire opening to the Artillery: from this results the limit hour of departure taking into account the delay in the movement execution.

Care for the secret may result in ordering the movement at the last moment, that is, during the night for an operation beginning at daybreak. One must know then that an Artillery unit arriving during the night at its position,

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when delayed reconnaissance has not been performed as a rule, is ready to open fire only 1/2 hour before daybreak.

D. Displacement during operations

If it is required by the amplitude of the maneuver, displacements during operation may be necessary.

They are prescribed by the Artillery Commander after agreement with the operation Commander, and executed by echelons, in order to guarantee support, a continuous support, and by jumps of sufficient amplitude to reduce their number (as a rule amplitude higher than half range of the material). The execution of a displacement is subordinated to the possibility of having at the right time a sufficient protection element.

IV. THE SECURITY

This question was treated previously in Chapter V, paragraph I - B (security of deployment).

Obviously, the Artillery is still more vulnerable during displacement than the means of protection which it must receive, must be still reinforced.

CHAPTER VI - FIRES

I. Firings

- A. Definitions. One can classify the Artillery firing as follows:
- either from the tactic point of view: it is the point of view of the operation Commander or of the supported unit. It consists in defining precisely, the support requested from the Artillery, and the results expected;
 - or from the technical point of view which is the artillerist viewpoint. Knowing the needs of the operation Commander and of the

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support unit, the artillerist must determine the nature of the materials and of the ammunition to be used, the consumptions to be granted, and the way to conduct the firings in order to obtain the results sought.

1. From the tactic point of view the Artillery firings correspond to the following categories.

a. In all the phases of combat

- remote range fires whose purpose is to paralyze in depth the adverse maneuver: fires on troop gathering, on ground or river convoys. Harassing or interdiction of passage points, etc.

b. In an offensive situation

- to be started, of course, on a enemy disposition that has been identified and precisely determined, and not on simply suspected covers.
- an accompanied fire which comprises:
 - immediate support fires started in the form of successive bombardments upon request or according to schedule
 - protection fires to give depth to the action of the Artillery. They have to do with the firing means acting at distances or on the flanks of the support elements, the gathering zones of counter attacks and perform a barrage of the zone of progression of the attack.
 - stopping fires to break the counter attacks on the successive positions reached by the supported element, and to cover the dispositions at the end of the day.

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c. In a defensive situation

- counter preparation fires started if there is indication of an attack.
- stopping fires.
- counter attack support fires belonging to the same category as the fire started in offensive situations.

2. From the technical point of view the fires can be classified in:

- destruction fires
- neutralization fires which paralyze the enemy
- harassing fires.

These fires are distinguished among themselves by consumptions and results to be obtained.

B. Consumptions

The consumptions are functions:

- of the nature of the dimensions of the objective
- of the effect to be obtained.

They are determined by the Artillery Regulations. The theoretic consumptions are very high, especially as regards the destruction fires. The theoretic neutralization consumptions are considerably themselves.

For instance, the neutralization of one by hectare objective requires eighty 105 shots in five minutes.

Now, it is more and more necessary to draw close to the theoretical consumptions in order to start or to neutralize an enemy who is more and more hardened and keen.

This demonstrates:

- on the one hand that the objective capable of being viewed as combat against the regular V.M. units can more and more justify the

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the fire from several batteries, and this confirms the notion of the "entire unit groups"

- on the other hand, that in a very short time in a crisis, important amounts of projectiles can be consumed.

Hence the conclusion that the ammunition must be reserved for the crisis and for the valuable objective, and must not be wasted in "a priori" fires, which fires justify the use of infantry armament, etc. The consumptions to be granted are essentially the functions of the allotments. The allotments to be considered are the following ones:

1. Monthly and counter control allotments ascribed by the Command to an armed unit. The Command is brought to determine such allotments, especially for the so-called critical ammunition categories which must be spared.
2. Allotment of ammunition ascribed for an operation or a determined period of operations.

This allotment is calculated as a function of the needs foreseen and of the level of supplies obtained.

Obviously, in case of crises, this allocation can be exceeded if, however, this is allowed by the supply. But the assignment of an allotment should entail economy on the part of each echelon.

C. Ammunition

Ammunition can be classified according to the effect produced in:

1. Explosive projectiles able to act either as percussion or projectives. The time firing is by far more effective on the unprotected personnel in rice fields or sheltered in trenches or in tombs; but, for each caliber and for each category of ammunition used, time firing is possible only up to a certain distance (7 kilometers for the 105 MM2) unless Pozit fuses are used.

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The percussions fire is really effective on the entrenched organizations, in the V.M. redoubt, specially from caliber 120 and with delayed primers. In rice fields, the operation of the delayed fuse is extremely irregular.

2. Projectiles provided with proximity fuse (POZIT)

The use of proximity fuse, which operate automatically at a stand out height with a sole regulation of the range, improves considerably the execution of the time fires.

Especially, it makes it possible to use time fires at night if it has been possible to place the equipment during the day.

These fuse constitute a rare and expensive material and must be reserved:

- for the fire on uncovered or slightly covered personnel, if the use is justified by the importance of the objective,
- for the execution of stopping fires, close to the structures or even released at the structure itself when submerged by an attack.

3. Smoke projectiles to be used at the beginning of adjustment in order to facilitate the identification of the ground, to designate the objective, to indicate the end of fire with explosives, to obtain an incendiary effect.

4. Special projectiles exist in the supplies that are not used at the present time.

D. Safety conditions of the firing operations

Near friendly troops, firing can be performed on this side of a certain limit which is the limit of the dangerous zone.

The dimensions of this zone, for the percussions fire are:

- in depth a fork in range plus the range of the dangerous fragments
- in length a fork in direction plus the lateral range of the dangerous fragments.

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Many factors must be used in determining the dimensions of the dangerous zone.

For instance, firing cannot be executed at less than 400 meters from uncovered friendly troops with some 105 HM2 shooting at 8 kilometers and yet this troop is not sheltered from certain of normal fragments which can reach up to 800 meters.

Finally, in the case of a time fire which has not been precisely adjusted, to the dispersion in range, one must add part of the dispersion of the time shots on the trajectories (especially for the Pozit fuse which does not entail any supplementary dispersion). Of course, the limits of security to be determined and the decision to execute the fires depend:

- on the more or less high protection enjoyed by the friendly troops:
the garrison of a concrete structure for particular shelter from the fragments; hence the range of the dangerous fragments can be out of consideration in calculating the margins of safety
- the urgency with which the objective must be treated. In certain situations, the Commander of the supported troop, even if this is discovered, is sheltered, can bring the fires to a line on this side of the limits of safety by allowing a certain risk; but the decision to execute such a fire belongs to the troop Chief or to the Chief of the structure supported, or to the Command and not to the artillerist.

The decision to perform such firing operations is taken more and more frequently as a function of the tactical V.M. units which consist:

- in combat in the open country in obtaining and to hand flight as soon as possible;

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- in the attack of a post in using false and surprise up to the limit of the accessory defenses
- in the two cases, consequently, in placing oneself at the very first on this side of the stopping fires adjusted to a safe distance.

As has been seen before, in case of the attack of a post, the use of Pozit fuse eliminates the risk of having percussion shots on the structure. Hence it permits to waive any consideration from the moment when the garrison is sheltered in the blockhouses. It can then be considerably efficient against an enemy in the immediate proximity of the defense or even partly inside the post.

The starting of such firing operations determines economy on the Commander of the support point.

II. The principles of fire maneuver

The principles of the fire maneuver to be determined for each operation are related to:

- the disposition of the fire missions among the different Artillery units engaged;
- the organization of the Command and of the liaisons and the type of action of the Artillery Commander during operation, by successive centralization and decentralization.
- the ways the objective, the placing (see Annex V) and the fire releases are determined.

A. Firing of the fire plan

The fire plan is established before the operation by agreement between the operation Commander and the Artillery Commander.

It is adapted as closely as possible to the maneuver involved:

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1. In offensive situation, as a function of the march axis of each element and of the successive objective to be reached on the one hand, of the ground and of the information concerning the enemy on the other hand, a certain number of named and numbered fires are foreseen
 - eventually "preparation fires", each resistance, have been determined;
 - "immediate support" fires and "protection" fires;
 - "stopping fires" covering the successive objectives.
2. Interdefensive situation, the program of the stopping fires and eventually of "counter preparation" is fixed
3. During operation, the fire plan can be reshaped and completed; partial fire plans, corresponding to local actions, arranged as a function of the circumstances, are established.
4. In all situations, a program of harassing fires, as a rule as a function of the information at the end of the day, can be established.

The fire plan firing can be started:

- either according to schedule: as a rule, only the preparation fires, and the fires of immediate support and of protection corresponding to the starting of an attack are begun according to schedule;
- or on request:
 - of the supported troop transmitted by the D.L. or D.L.O.
 - of the air observers
- or of the operation Commander.

B. Unexpected fires

They are started:

1. either on the request of the D.L.O. or of the observation airplane.

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The D.I.O. and the observation airplane can have a permanent delegation, eventually within the limits of an allotment, to obtain the start on their request, especially in the case of emergency, of the firing of the Artillery elements (isolated group or battery), which that have at their special a priori disposal, or which are at the disposal in the case of need. The Artillery Commander (or the group Commander) follows the fire requests and their execution; he reserves for himself the right to intervene, in order to limit the fire and even to stop it, or to reinforce it by the fires of another Artillery element.

He is guided in his decision by the knowledge of the situation at the moment and by the information obligatorily transmitted to him (by the D.I.O., the Morane, of the support unit) concerning the nature and the dimensions of the objective.

2. Either on the order of the operation Commander or the Artillery Commander.

These authorities can prescribe, during an operation, different categories of unexpected firing:

- all categories of fires depending upon the total action
- reciprocal support fires
- support of the fires requested by the D.I.O. or by the observation airplane from the units which are adapted to them
- fires started in the eventual zone of action, not involving directly the operation being conducted

III. EXECUTION OF THE FIRE MANEUVER

It consists:

- A. Before the beginning of the operation

1. In the taking of decisions concerning the articulation, the organization of the Command and of the liaisons, the starting of the fires.

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2. The drafting of the orders (plan of use and order for the corresponding transmissions).
3. The establishment of the fire plan.
4. The diffusion of the orders and fire plan to all interested authorities and agencies: operations Commander, Commanders of sub-groups, Commanders of Artillery groups and batteries, observation airplane. In their team, the groups and batteries must insure this diffusion to all the D.L. and D.L.O.
5. The preparation of the fires of the firing plan.
6. The adjustment of the radio network (case of stations with amplitude modulation).

These operations require a certain delay which must be taken into account if the mechanism is to be well organized from the beginning. This delay is very important because the recipients of the different documents cannot be reached instantaneously and at the same point. The preliminary operations must involve a minimum of personnel for secrecy reasons.

B. During the operation

1. The execution of the fires according to schedule
2. The starting of fires on the request. This second aspect of the maneuver of the fires is closely connected with the maneuver of the D.L.O. and with that of the observation airplane.

a. The maneuver of the D.L.O. in its relationships with the maneuver of the supported unit.

Most of the fires on the request must be executed with the shortest possible delay. Especially the suddenness and brutality of the counter attack which constitute more and more the base of the maneuver of the V.M. unit

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requires the Artillery to riposte within a few minutes in order to break the counter attack at the very time when it starts.

Now, the agency which normally is the first able to localize and counteract the counter attack is the D.L.O.; but for this the D.L.O. must be in a stopping position in an observation point, its radio station must be in position, its liaison must have been taken with the batteries, the ground must have been identified, the friendly positions and the fires of the firing plan must have been satisfied, at the moment when the attack is started.

If on the contrary, the counter attack surprises the D.L.O. in the process of maneuver, the delay necessary to perform the operations which have just been listed, a delay that can exceed a quarter of an hour, is incompatible with the nearly instantaneous action necessary.

Now the maneuver of the D.L.O. is closely subordinated to that of the element supported; the D.L.O. is not free to stop where and when it pleases, where it only can benefit from a permanent and close protection.

Hence it is concluded that the D.L.O. is most effective in a maneuver which can be schematized as follows:

- supported element moving by echelon and by jumps, from objective to objective, and stopping during the time necessary at each objective;
- objective selected as much as possible as a function of the sights it offers in the directions assumed to be dangerous;
- adaptation at each echelon of a D.L.O. element.

In such a solution, continuity of liaison and observation is best guaranteed. This solution can be obtained without difficulty inside a maneuver element of the order of a Battalion if the D.L. has adapted this element to the typical composition indicated in Annex I.

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b. Maneuver of the Morane

The type of the maneuver of the D.L.O., as has just been underlined, is only diagrammatical. There will be, of course, losses of touch between units, periods during which the D.L.O. will be unable to observe, then the Morane will have to support the D.L.O.; as a rule, it is the only formation capable of imparting depth to the action of the Artillery.

The work by the D.L.O. and the Morane is distributed as follows:

- the D.L.O. insures the immediate support fires on the contact objective; these fires can be resumed by the Morane if the Morane has better views of the objective than the D.L.O.
- the Morane insures the protection fires on the objective such as the arms location, counter attack gatherings, systematic regulations, and remote actions.

Hence, the maneuver of the Morane working for the Artillery will consist:

- in taking to the air, during the periods when the groups engaged are moving into the zone where they are susceptible, a priori, or according to information of getting the bulk of the enemy,
- in remaining on the ground during the periods when the groups are stopped, sheltered, on objectives of the end phase,
- in combining, automatically, the Command missions and permanent missions for the search of objectives,
- in execution, as much as possible, remote information missions only when the mission of Artillery is not urgent.

c. Fires in case of enemy counter attack

These fires comprise:

- stopping fires, precisely speaking, started, as a rule, by the D.L.O.;

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if the element subjected to the counter attack must execute a retreat, implying the loss of contact of the D.I.O., the stopping fire is maintained during the delay necessary to cover the retreat movement,

- fires applied on the rear and on the flanks of the counter attack, and aiming at the element which must supply it: these fires must be started at the same time as the stopping fires if, however, the amount of Artillery available permits it.

These fires become the only possible ones in the case where it has not been possible to block by the stopping fire the first counter-attack wave and when to hand fight has developed. They must be started, a priori, even if they have not been the objective of an express request and even if no observation agency is capable of verifying them. They must, however, involve all the guarantees of safety regarding the friendly, neighboring elements (especially the flanks of the counter attack).

3. Stopping fires covering the disposition at the end of the day.

In a country where the topography is, as a rule, very scanty, the start of the fires must absolutely be subordinated to primary adjustments (see Annex V). Since the adjustment must be made in day time, it is necessary for the disposition at the end of the day to be obtained before the beginning of the night, and for the Officers entrusted with the performing of the adjustment to have the necessary delays in order to reconnoitre the contour of this disposition and to fix, in agreement with the Commands of supported units, the stopping fires to be placed.

If the disposition is taken only when night begins or if the Commander of the supported group, in order to try to guarantee the secrecy of the

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disposition interdicts any adjustment, it will no longer be possible to start stopping fires, precisely speaking, but only protection fires applied to distance of the disposition much more considerable than the distance of the normal stopping fires.

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ANNEX T

LIAISON AND OBSERVATION DETACHMENT (D.L.O.)

I. COMPOSITION OF THE D.L.O.

The composition of the liaison and observation detachment:

- Liaison Officer
 - Observation Officers
 - Assistant noncommissioned Officer
- } provided with radio station.

is that of the D.L.O. The "Metropole type" fixed by the Artillery maneuver regulations.

Such a D.L.O. with three Officers can be provided by a battery with the normal theoretical force of five officers; two officers must fulfill the functions of fire lieutenant and reconnaissance officer.

Consequently, the adaptation of a typical D.L.O. to each Battalion or similar elements, possible only if the proportion of the means used is approximately of one battery and one battalion. For instance, a group with three batteries will be able to put three D.L.O.'s at the disposal of a group with three battalions.

In fact, the composition of the D.L.O. usually organized in Indochina, is only rarely that which has just been indicated because:

- on the one hand, the theoretic force of a battery of the "Indochina" type is only of four Officers and many times this force is not used,
- on the other hand, because of the real weakness of the Artillery, at least on certain Territories, the proportion of the Artillery engaged is often inferior to one battery and one battalion.

Under these conditions, the composition of a D.L.O. of the battalion is best with:

- one liaison Officer

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- one observation Officer
- one assistant noncommissioned Officer

it can even be reduced to one Officer and one noncommissioned Officer.

Of course, the Artillery Commander of an operation distributes his D.L.O. means as a function of the idea of the maneuver. He uses ample force in making the D.L.O. adapt to the battalion or sub-group entrusted with the main effort.

Nevertheless, a detachment reduced to one Officer can no longer be called a D.L.O, except improperly, and the adaptability and efficiency of its maneuver, as will be seen farther on, are considerably reduced.

Under the conditions, the operation Commander, when he delays the action of the D.L.O, which according to his judgment is necessary, must be placed by the Artillery Commander in the presence of the following alternative:

- either to multiply the D.L.O. with reduction of their individual efficiency;
- or to reduce the number of the D.L.O. in order to maintain the possibility of a normal operation.

II. MISSION AND USE OF THE D.L.O.

The D.L.O. has a double mission that is:

- liaison with the support units
- advanced observation.

The Chief of the D.L.O.¹, places the part of the liaison element and remains with the Chief of the supported unit. The two observation elements move from observation point to observation point, as a rule, at the level of the units of first echelon.

1. The Chief of the D.L.O. is often a battery Commander; however, this rule is not rigid because a battery Commander, when he so judges, should be able to resume contact with his unit.

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Obviously, the Chief of the D.L.O. goes in person to the point which he judges most important. He assigns one of the observers to replace him, if necessary, with the Commander of the supported unit.

A D.L.O., with three elements, is thus under the best conditions to execute the maneuver schematized in Section 2, Chapter 6, paragraph III B, and especially to insure permanent observation during displacement by echelon.

A D.L.O. with two elements can also insure this permanence under satisfactory conditions. On the contrary, a D.L.O. reduced to one Officer is unable to insure the mission of observation and liaison only in a discontinuous way. Especially, because the operation of the radio stations utilized by the major D.L.O. cannot be insured during replacement.

These considerations on the use of the D.L.O. confirms the interest of maintaining the minimum composition of the D.L.O. at two elements.

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ANNEX II

THE MORANE

I. GENERAL INFORMATION

The air groups of the Artillery observation (G.A.O.A.)¹ based in Indochina, and equipped with Moranes are not dispatched and may reserve uniquely to Artillery observation.

As a unit of the ground force whose material and technical personnel are connected with the air force, they possess observation Officers who all are Artillery Officers, and insure three essential types of missions:

- Missions at the profit of the Artillery
(search of the objectives, adjustment and verification of firing operations,
(eventually reconnaissance of routes and zones of displacement,
(Transmission of information concerning the friendly positions,
(eventually radio relay
- Missions for the benefit of the Command (reconnaissance liaison operations)
- Missions for the benefit of the air force (fighting or bombardment guidance)

During the same sally, where an observer may face all these missions at the same time.

II. USE OF THE MORANE DURING AN OPERATION

A. Missions - The general use of the observation Aviation is determined by the operation Commander and can chronologically comprise

1. Initially, a mission, a priori, determined as a function of the idea of the maneuver and of the information concerning the enemy, for instance:

1. THE G.A.O.A. has articulated in parties which can be detached on two different bases.

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- verification of the information concerning the presence of the enemy at such and such a point
- placing of Artillery fires, (a priori hitting or fires on unexpected objectives)
- guidance of fight or bombardment patrol in alert on the ground or during flight for a certain hour, in view of intervention of the attack preparation attack.

2. Later on

- performance of reconnaissance operations prescribed as a function of the development of the operation
- attacking of any unexpected objective, either by the Artillery or by the Aviation, on the proposal of the air observer, on the request of the troops on the ground, on decision of the Command.

B. Organization of the liaisons and of the Command

As a rule, the following scheme is obtained:

- at the echelon of the operation Commander:

juxtaposition (of the fixed C.P. of the operation
 (of the Artillery C.P.
 (of the C.P. of air intervention (PCIA)

- at the tactic group echelon

juxtaposition (of the group C.P.
 (of the Artillery C.P. of detachment
 (of the Artillery liaison
 (of the air intervention detachment (D.I.A.)

The liaison between the Morane, the different Command agencies above, and the execution agencies, (Artillery units and flight or bombardment aviation) is obtained as follows:

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- between the Morane and the Artillery, liaison by SCR 609- or WS 19 (according to the territory) entering an Artillery network common to the C.P. and the Artillery units,
- between the Morane on the one hand, the P.C.I.A., the D.I.A., the intervention aviation on the other hand, liaison by V.H.F.,
- between the Morane and the operation and group C.P., liaison insured on the same network as the Artillery liaison, either because the C. P. have their own airplanes working on this network or because they use those of the Artillery, if the juxtaposition of the C. P. is obtained,
- finally, between the Morane and the Battalions, liaison insured by means of SCR 300 stations, or on the Artillery network by means of the D.L.O. station with the Battalion.

C. Operation

1. The grounds - According to the region where the operation takes place, the Morane can use its base ground or the ground existing under the circumstances. Among these last grounds, some can be used at any time, others can be used during the dry season.

2. Alerting and taking to the air

The initial mission of the Morane is communicated before the operation to the G.A.O.A. or to the interested detachment by the operation Commander.

As a rule, this mission requires the Morane to be at the vertical of a certain point at a certain hour in order to enter in connection with the Command on one of the above networks and in order to receive confirmation or eventually, modifications concerning the initial mission.

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Once its flight credit is exhausted or once it is replaced by another airplane, the Morane rejoins the base ground or a ground to the existing circumstances. On these grounds, it can receive the order to remain on alert, and in this case, it is recalled if need be by order of the operation Commander through P.C.I.A.

3. Execution of the mission

Because of the difficulty encountered by the ground observer, the Morane is a primary agency in the use of Artillery in Indochina. The ways it is used during an operation must then allow it to execute it any time it is an Artillery mission, even during a Command mission.

- a. this adaptability of use is made possible by putting it at the disposal of the Morane, such transmission means as would allow it to pass without delay and successively from one category of mission to the other:
 - during reconnaissance, and working in V.H.F. it can if it identifies an interesting Artillery objective, mention it immediately when passing over the Artillery network, and treat it if it receives permission to do so.
 - working over the Artillery network, it can communicate all the information interesting the Command, either directly to the C.P. interested, or through the Artillery C. P.
 - guide in V.H.F. the fight of the bombardment on a objective, it can, once the air action is finished, complete it by Artillery fires, when passing over the corresponding network.
 - inversely, it can neutralize and fix an objective by treating it by the Artillery while waiting the arrival of the intervention aviation.

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- the air observer can be led to adjust a fire for his own account, or still to assume a fire began by a D.L.O. if he is able to observe under better conditions than the ground observer.

b. As a rule, the unexpected actions are proposed by the air observer and decided by the operation Commander who distributes them between the aviation and the Artillery.

However, delegation can be given to the air observer in order to treat any interesting objective which he identifies:

- either by the fire of an Artillery unit placed at his disposal for this purpose,
- or by the intervention of an air patrol by a priori.

4. Artillery missions executed by the Morane outside the operations

At any time, the Morane can receive from the mission to execute the adjustment of units of intervention Artillery (or the position Artillery) on the objectives mentioned by the information.

Furthermore, during any reconnaissance prescribed by the Command, the air observer can have the delegation to attack any objectives revealed in the radius of action of the Artillery unit.

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ANNEX III

THE RADIO TRANSMISSIONS

I. LIAISONS TO OBTAIN

By the radio transmissions one must insure:

- the internal liaisons of the Artillery units
- the liaisons with the supported troops
- the liaisons with the upper or neighboring Artillery elements
- the liaisons with the air observation agencies.

They must secure the putting on of three essential types of messages:

- fire messages
- information messages
- Command messages

The liaison which must be obtained by radio means are especially numerous during activity and mobile operations. In proportion to the establishment of the operations and to the reduction of the activity, the radio phonic reconnaissance are doubled; then, for some of them, they are replaced telephone connections.

II. ORGANIZATION OF THE NETWORKS

A. The organization of the Artillery networks is a function:

- of the number of frequencies attributed to the Artillery
- of the distribution of these frequencies: internal frequencies of each group, general frequencies of the Artillery;
- of the type of devices used (in north Vietnam, the units possess devices with preadjusted frequencies permitting easy passage from one to another)
- of the danger of centralization to be obtained in each operation.

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B. The organization of the networks is closely linked with the fire maneuver:

- the group with a sole fire network can obtain adjustment of one fire only at the same time
- several fire networks permit several simultaneous adjustments
- a general Artillery frequency common to the Morane and to the groups of the Territories make it possible for the air observer who identifies an objective to have it attacked by the group suitably placed to overcome it; on the other hand, the jamming risk on this common network is considerable, during activity and general operations.

C. As a rule, thus it is certain that the adaptability of the use of the Artillery increases with the number of frequencies available.

III. INFORMATION TRANSMISSION

The transmission of information about the enemy and about the position obtained by the friendly troops is necessary for the correct starting of the firing operation.

The centralization of the information of this type coming from the D.L.O., from the D.L., from the Morane, and its retransmission to all the Artillery agencies interested, constitutes one of the essential tasks of the Artillery C. P. This retransmission, of course, is secured also to the Command and that very easily when the juxtaposition of the C. P. is obtained the Artillery network thus works indirectly but efficiently for the benefit of the Command. On the other hand, in no case must that be distracted from the normal use which is adapted to the essential mission of the Artillery:

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identifying of the object and starting of the firing operations within the shortest delay.

Consequently, the transmission on the Artillery networks of the Command messages must be indicated.

In the case of extreme urgency, a D.L.O. Chief shall never refuse to transmit a short message from a Battalion Chief whose transmissions are in difficulty; but this exceptional case should not be systematically generalized.

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ANNEX IV

ASSIGNMENT OF THE INTERVENTION ARTILLERY TO STATISTICS MISSIONS

The units of intervention artillery cannot be engaged in a permanent way. As often as is permitted by the situation, they must resume contact with their base in order to insure the repair of their materials and to grant their personnel a minimum of rest and relaxation.

However, outside the periods of active operations, the intervention artillery may be entrusted with certain statistics missions.

I. NATURE OF THESE STATISTICS MISSIONS

- Participation in the general coverage of a defensive system (post and out works)
- Protection of troops temporarily assigned to statistics missions; such as construction of out works, repair of ground and river routes.

II. CONDITIONS OF EXECUTION OF THE MISSION

A. Subordination for the use - The intervention units assigned to statistics missions can be placed at the disposal of a territorial authority of the sector, sub-sector, of even quarters echelon.

B. Deployment - The deployment to be obtained is a function of the extension of the zone to be covered and of the available artillery means. However, the batteries must not be dissociated; isolated section does not possess fire power to block a serious attack, and on the other hand, the forces and equipment of the batteries, especially in Indochina where the units are of the reduced type, do not make it possible for a detached section to live and to work under suitable conditions.

C. Observation, liaison, and transmission

The units of Artillery places elements¹ and of observation and liaison at the essential points (post observation points, unit on the ground or

1. Reduced to one Officer.

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or territorial C. P.). Of course, the Officers and radio material of these elements cannot be multiplied beyond normal possibilities of their original unit. On the other hand, it is during these periods that the units precede to revise part of their radio material.

The remaining personnel and material then are definitely insufficient to insure permanent listening at the battery echelon.

Consequently, the elements of liaison and observation are led, as a rule, to use the territorial networks (radio, wire, optics) to support their own means.

The following scheme can be obtained:

- a certain number of post to cover,
- a part of these post equipped with an element of liaison or observation of Artillery (especially key post which are good observation points).
- the battery juxtaposed or connected by a telephone line directly to a territory C. P. to insure permanent listening or a security network,
- the post, provided or not provided with Artillery elements, able to request the intervention of the batteries by entering directly or indirectly with the security network.

III. RETURN TO THE INTERVENTION MISSION

The assignment of an unit of intervention Artillery to the statistics mission must be carried out only in case of absolute necessity, because an intervention unit must be able to be set up with all its means within the shortest delay which must be determined in each case by the Command.

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If the delay of recovery of the radio means dispatched outside the unit (elements of observation and of liaison) exceeds the delay granted for the setting up, which is the case, as a rule, the intervention unit is no longer capable of being used normally.

Of course, the means that have been dispatched cannot be left there, otherwise, it would weaken the unit at the moment when it returns to its principal mission.

If it is necessary to assign the intervention Artillery to a statistics mission, the Command must take all measures so that the restitution of the units to their principal mission can be performed within the shortest delay. Especially, the number of elements of liaison and observation which can be dispatched simultaneously, and using territorial echelon must strictly respect this limitation.

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ANNEX V

PLACING OF THE FIRES

The purpose of the placing of the fires is to complete, by observation, the results of the preparation, so as to start the efficiency firing operations on the elements with as much precision as possible: this precision is necessary from the double view point of efficiency and of safety as regards the friendly troops.

The placing operation is all the more necessary in that the elements of preparation are more imprecise.

Now in Indochina, the conditions of fire preparation do not make it possible to obtain a precision comparable to that obtained on territories partly equipped for the Artillery needs.

Thus:

- the topographical preparation, most times, is summary, because of the lack of precision of the cartographic documents, because of the insufficiency and of lack of frequent adjustment of the planning; (the modifications in certain planning details (for instance, village limits, stream beds), do not appear on the maps in use.
- a correct theoretic preparation rests essentially on the diffusion of sufficiently frequent bulletins of analysis which must be valid for the portion of ground under consideration. Now, at the present time, the equipment of the territories in the analysis stations is extremely summary,
- the experimental preparation, which rests on the further use of the fires already performed in order to improve the elements of the new firing operations, is possible only if the topography of the

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objective is sufficiently coherent: as a rule, this coherence is not obtained as should be.

- to some extent, the aerial photograph could correct insufficiencies of the topography. Yet it would be necessary to insure and diffuse to all the Artillery echelon interested.

Altogether it appears that the place of the fires is especially necessary in Indochina and that the adjustment and verification implied must be performed frequently, which result in some loss of time in the starting of the efficiency fires. The placing operations may involve:

- previously to the starting of the operation, the hitting of a certain number of fires or auxiliary targets distributed in the zone of action. These hitting processes must normally permit the starting without delay and with the necessary safety, all certain efficiency firing operations,
- during operation: complementary adjustment or verifications in each case where the initial placing can no longer be used. The Commanders of the supported units must be informed of this condition attaching to the artillerist, and as much as possible, adapt their maneuver to this special aspect of the fire maneuver.

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